REMARKS

Claims 1-22 are currently pending in the patent application. Claims 23-25 have been added with this Amendment. Of these claims, only claims 1, 12, and 23 are independent claims. Claims 2-11, 13-22, and 24-25 respectively depend from these claims. As the Court noted in *In re Fine*, "dependent claims are nonobvious under section 103 if the independent claims from which they depend are nonobvious." 5 U.S.P.Q.2d 1569, 1600 (Fed. Cir. 1988). Using this same rationale, dependent claims cannot be anticipated if the independent claims from which they depend are not anticipated. Since the Applicant respectfully asserts that these independent claims are allowable, dependent claims 2-11, 13-22, and 24-25 are also allowable. Thus, Applicant respectfully requests allowance of all the pending claims in view of the subsequent remarks regarding the above-mentioned independent claims.

I. Remarks re recently added Claims 23-25

There is clear support for new Claims 23-25 in the current patent application. More specifically, the support for these claims can be found at least in the detailed description on page 23, lines 4-15. Therefore, the Applicant asserts that newly added Claims 23-25 do not constitute new matter and should be entered in the current application.

II. Remarks re 35 U.S.C. §103 rejections

In the Office Action mailed November 15, 2005 ("Office Action"), Claims 1-3, 5-15, and 16-22 are rejected under 35 U.S.C. §103(a) as allegedly unpatentable over U.S. Patent No. 4,215,697 issued to Demetrescu on August 5, 1980 ("Demetrescu"). Claims 4 and 15 are rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Demetrescu in view of U.S. Patent No. 5,720,294 issued to James Skinner on February 24, 1998 ("Skinner"). Since the obviousness rejection to the independent claims only applies to Demetrescu and the allowability of the dependent claims necessarily follows allowable independent claims (*see In re* Fine, *Id.*), the remaining comments regarding obviousness will focus on Demetrescu.

For a *prima facie* case of obviousness, there must be a motivation to modify the reference or combine reference teachings, ***and*** the cited references must teach or suggest all of the claim

limitations ***with*** a reasonable expectation of success. *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991). In order for a reference to be effective in prior art under 35 U.S.C. § 103, it must provide a motivation whereby one of ordinary skill in the art would be led to do that which the applicant has done. *See Stratoflex Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1535, 218 USPQ 871, 876 (Fed. Cir. 1983). The Patent Office has the burden under 35 U.S.C. § 103 to establish a *prima facie* case of obviousness, which can be satisfied only by showing that some objective teaching in the prior art would lead one to combine the relevant teachings of the references. *See In re Fine*, 837 F.2d 1071, 1074 (Fed. Cir. 1988).

The Applicant understands the logic of the obviousness rejection to be as follows: the claims are alleged to be obvious in view of Demetrescu in combination with a general knowledge that one skilled in the art would allegedly possess. This appears to follow from the statement in the Office Action: "Demetrescu discloses... One of ordinary skill in the art would have found it obvious..." *See* Office Action at page 2. Thus, the obviousness rejection is based upon the "conventional" aperiodic analysis system provided by the disclosure of Demetrescu and the general knowledge of a skilled person in the art. As argued below, there is no legal basis for establishing that this reference in combination with a general knowledge that one skilled in the art would possess makes the claimed invention obvious.

A review of the primary reference shows that it discloses an aperiodic analysis system, as for the electroencephalogram. More specifically, "present invention is directed to a system whereby EEG information is decoded and presented in a concentrated format indicated above, so as to preserve the individual characteristics of the waves or waveform components. In that sense, the characteristics of the waveform which have been important for classic and traditional wave analysis are preserved in the display." *See* Col. 2, lines 49-56. Demetrescu discloses a display that is "a three-dimensional representation with each wave represented by a line that extends in one dimension to indicate amplitude. The position of the line in another dimension indicates the period or equivalent frequency, and its position in the third dimension indicates the time of occurrence of the wave." *See* Abstract. In other words, this reference discloses an analysis system that produces a display indicative of electromagnetic wave attributes (*e.g.*, amplitude, period, or time of occurrence).

It is axiomatic that in order for a *prima facie* case of obviousness to be properly presented, the cited references must teach, or suggest, all of the claim limitations. *See In re Vaeck,* Id. While it is true that a single reference can serve as the basis for prior art rejection, it must be obvious to a person of ordinary skill to modify the single reference to produce the invention as claimed. Common knowledge or common sense cannot serve as the basis for meeting this requirement, rather there must be some specialized knowledge and expertise documented on the record; "common knowledge and common sense, even if assumed to derive from the agency's expertise, do not substitute for authority when the law requires authority." *See In re Lee,* 277 F.3d 1338 (Fed. Cir. 1984). Even with the assertions made in the Office Action on pages 2-3, there is no basis for concluding that Demetrescu can be modified to produce the subject matter recited in Claim 1 and Claim 12 based on the knowledge of a skilled artisan. The shortcomings in these assertions are more clearly indicated below.

The subject matter recited in Claim 1 is neither taught nor suggested by Demetrescu. Claim 1 is directed to a method of detecting or predicting a cerebral disorder that comprises the steps of: analyzing input biological or physical data using a data processing routine including a set of application parameters associated with biological data correlating with the cerebral disorder to produce a data series; determining whether a slope of the data series is smaller than a predetermined value; if the slope is less than a predetermined value, setting the slope to a predetermined number; and using the data series to detect or predict the onset of the cerebral disorder. Though stated in the Office Action, Demetrescu neither discloses nor suggests the above-mentioned subject matter.

The subject matter recited in Claim 12 is neither taught nor suggested by Demetrescu. Claim 12 is directed to a method of detecting or predicting cerebral disorder, comprising the steps of: analyzing input biological or physical data using a data processing routine including a set of application parameters associated with biological data correlating with the cerebral disorder to produce a data series; determining a noise interval within the data series; and if the noise interval is within a predetermined range, dividing the data series by a predetermined number and repeating the step of analyzing to produce new values for the data series; or if the noise interval is outside the predetermined range, using the data series to detect or predict the

onset of the cerebral disorder. Though stated in the Office Action, Demetrescu neither discloses nor suggests the above-mentioned subject matter.

Even though the Office Action does not include a clear indication of how Demetrescu suggests the subject matter recited in claim 1 and claim 12, the Applicant includes the following explanation for the sole purpose of being fully responsive to statements on pages 2-3 of the Office Action. Moreover, the Applicant reiterates that as mentioned above with regard to the individual claims Demetrescu does not disclose the subject matter recited in claim 1 and claim 12 and cannot be made obvious by this reference. With this in mind, the remaining description will address statements about what Demetrescu supposedly discloses.

Even if Demetrescu discloses analyzing EEG data, this reference neither teaches nor suggests the subject matter of claim 1 or claim 12. While the Applicant concedes that Demetrescu analyzes EEG data, neither claim 1 nor claim 12 include simply analyzing EEG data. In fact, the analysis described in Demetrescu *never* mentions any of the factors associated with analyzing data including, but not limited to, application parameters, a cerebral disorder, or even a data series. Moreover, these factors are not within the common knowledge of one skilled in the art. Therefore, Demetrescu cannot teach or suggest the subject matter of claim 1 or claim 12 for at least the reason that it does not suggest all of the recited claim limitations.

According to page 2 in the Office Action, Demetrescu discloses comparator circuits 114-122 that supposedly operate with respect to different predetermined levels of slope for the differentiated value of the EEG. The Applicant concedes that these comparators receive the EEG output from a differentiator. However, the conclusion that it is obvious to determine whether a slope of the data series is smaller than a predetermined value is erroneous. While it is somewhat unclear exactly what is meant by comparators "function for increasing slope signals" and that they may "selectively operate," the above-mentioned conclusion does not necessarily follow from these assertions.

As mentioned above with regard to *In re Gordon*, there must be more than common knowledge, "lest the haze of so-called expertise acquire insulation from accountability." *Id.* at 1344-1345. Even though comparators receive the EEG output from a differentiator, there is nothing to suggest that a skilled artisan would even consider a data series, a predetermined value, or the relation of a slope to that predetermined value with these comparators. Moreover, nothing

in Demetrescu suggests these factors either. Demetrescu does include a differentiator 112 with an output proportional to the slope of the input. If the input to a comparator is proportional to the input of the differentiator as suggested in the Office Action, one still cannot conclude that is obvious to determine whether a slope is less than a predetermined value. In fact, it is unclear from the Office Action what predetermined value Demetrescu discloses. Therefore, Demetrescu cannot teach or suggest the subject matter of claim 1 or claim 12 for at least the reason that it does not suggest all of the recited claim limitations.

In order to support a rejection under 35 U.S.C. §103, the Examiner must establish a *prima facie* case of obviousness. Thus, the initial burden of proving obviousness lies with the Examiner. Since the Examiner has not identified in either the Office Action a motivation to combine, a reasonable expectation of success, or a teaching/suggestion of all the claim limitations, there can be no finding of obviousness. Hence, claim 1 and claim 12 are in a condition for allowance. It necessarily follows that all claims, which depend from these claims are also allowable. *See In re Fine*, Id. Consequently, claims 1-22 are in a condition for allowance.

In the Office Action, Claims 4 and 15 are rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Demetrescu in view of U.S. Patent No. 5,270,214 issued to James Skinner on January 8, 2004 on behalf of Richard Appelt *et al.* ("Appelt"). Since this obviousness rejection only applies to these dependent claims and the Applicant asserts that independent claims 1 and 35 are allowable in light of the arguments included herein, then dependent Claims 4 and 15 are allowable based on *In re Fine*, which was cited above. Therefore, the Applicant respectfully traverses the rejection of these claims.

CONCLUSION

Claims 1-25 are currently pending in the patent application. Of these pending claims, only claims 1, 12, and 23 are independent claims. Since the Applicant respectfully assert that these independent claims are allowable, dependent claims 2-11, 13, 22, and 24-25 are also allowable. Thus, Applicant respectfully request allowance of all the pending claims in view of the above-mentioned remarks regarding the above-mentioned independent claims.

In order to support a rejection under 35 U.S.C. §103, the Examiner must establish a *prima facie* case of obviousness. Thus, the initial burden of proving obviousness lies with the Examiner. Since the Examiner has not identified in the Office Action a motivation to combine, a reasonable expectation of success, or a teaching/suggestion of all the claim limitations, there can be no finding of obviousness. Hence, claims 1-25 are in a condition for allowance

A Credit Card Payment Form PTO-2038 authorizing payment in the amount of **$685.00,** representing $75.00/additional claims fee; $100.00/additional independent claim fee; and $510.00/3-Month Extension of Time fee, is enclosed. This amount is believed to be correct; however, the Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 14-0629.

Respectfully submitted,

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CasSandra D. Belton

5/15/06
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